

Snake River Avenue and Southway Intersection Project

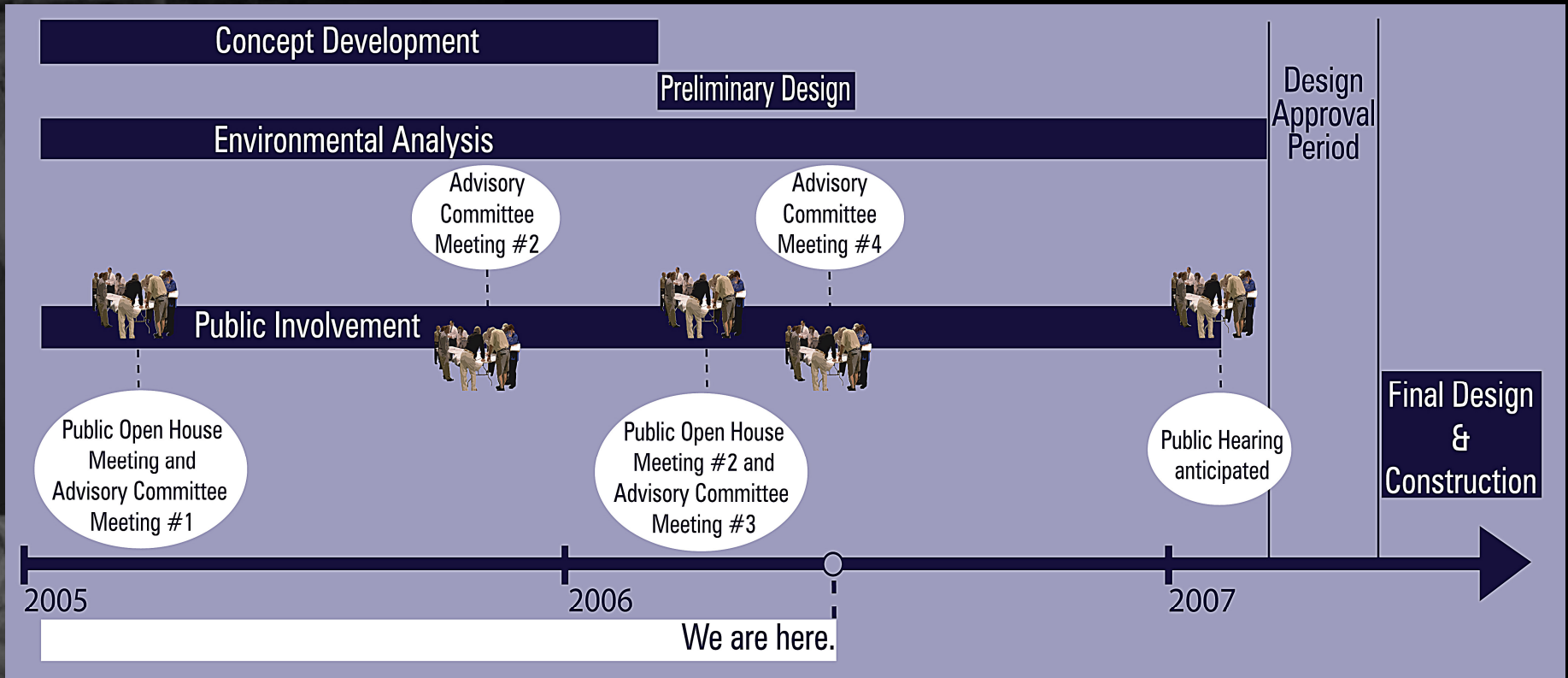


City of Lewiston, Council Update
August 14, 2006

Project Limits



Schedule



Intersection Recommendation - Roundabout



Why a Roundabout

- ◆ Safety
- ◆ Capacity
- ◆ Cost
- ◆ Aesthetics



Capacity

- ◆ Level of Service (LOS) B
- ◆ Average Delay - 13 Seconds

Safety

Average annual crash frequencies at 11 U.S. intersections converted to roundabouts

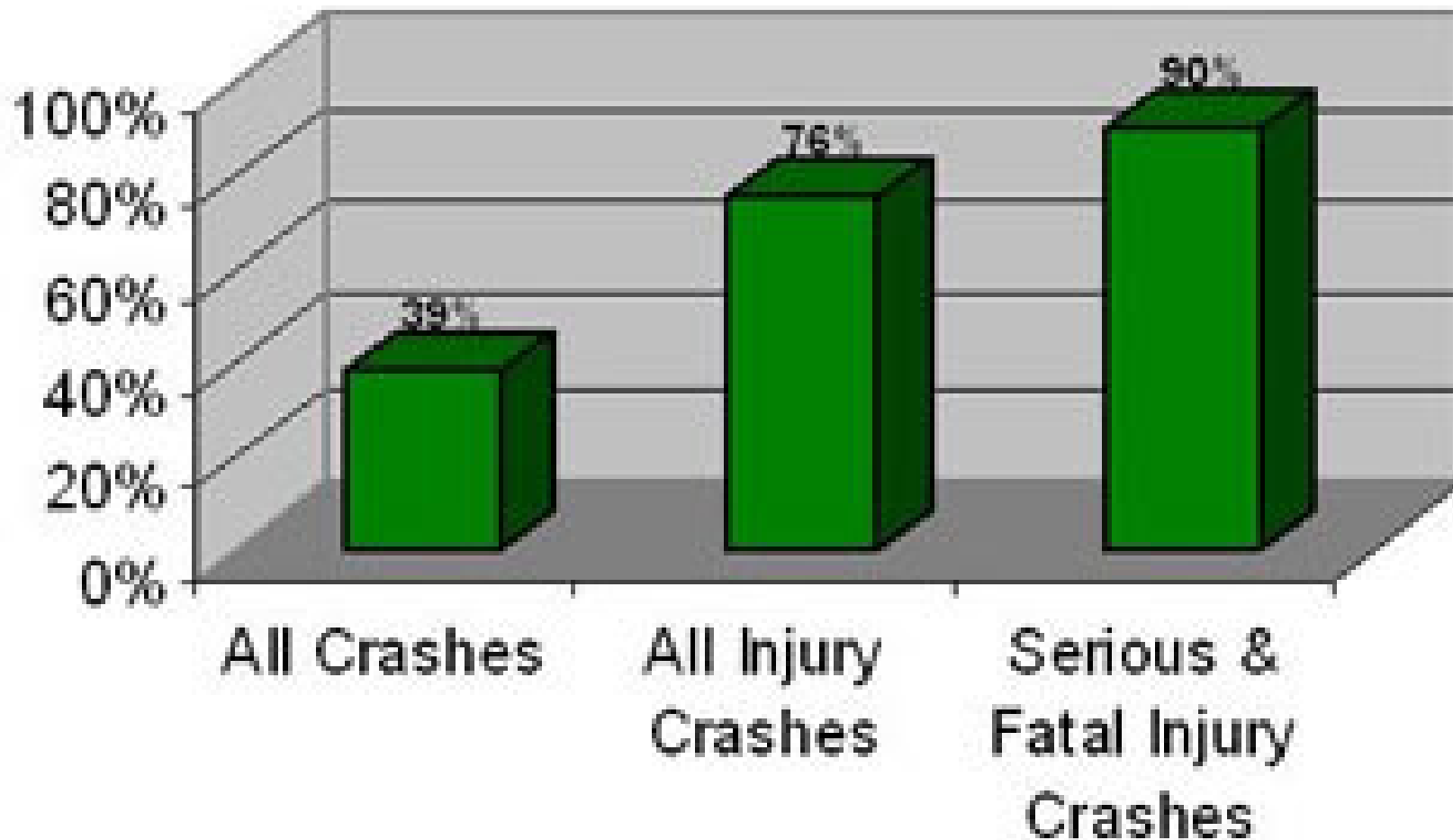
Type of Roundabout	Sites	Before Roundabout			Roundabout			Percent Change ⁵		
		Total Inj. ³	PDO ⁴		Total Inj.	PDO		Total Inj.	PDO	
Small/Moderate ¹	8	4.8	2.0	2.4	2.4	0.5	1.6	-51%	73%	-32%
Large ²	3	21.5	5.8	15.7	15.3	4.0	11.3	-29%	31%	-10%
Total	11	9.3	3.0	6.0	5.9	1.5	4.2	-37%	-51%	-29%

Notes:

1. Mostly single-lane roundabouts with an inscribed circle diameter of 30 to 35 m (100 to 115 ft).
2. Multilane roundabouts with an inscribed circle diameter greater than 50 m (165 ft).
3. Inj. – Injury crashes
4. PDO – Property Damage Only crashes
5. Only injury crash reductions for small/moderate roundabouts were statistically significant.

Source: (9)

Roundabout Crash Reduction*



*Insurance Institute for Highway Safety

Source: FHWA

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ENGINEERS

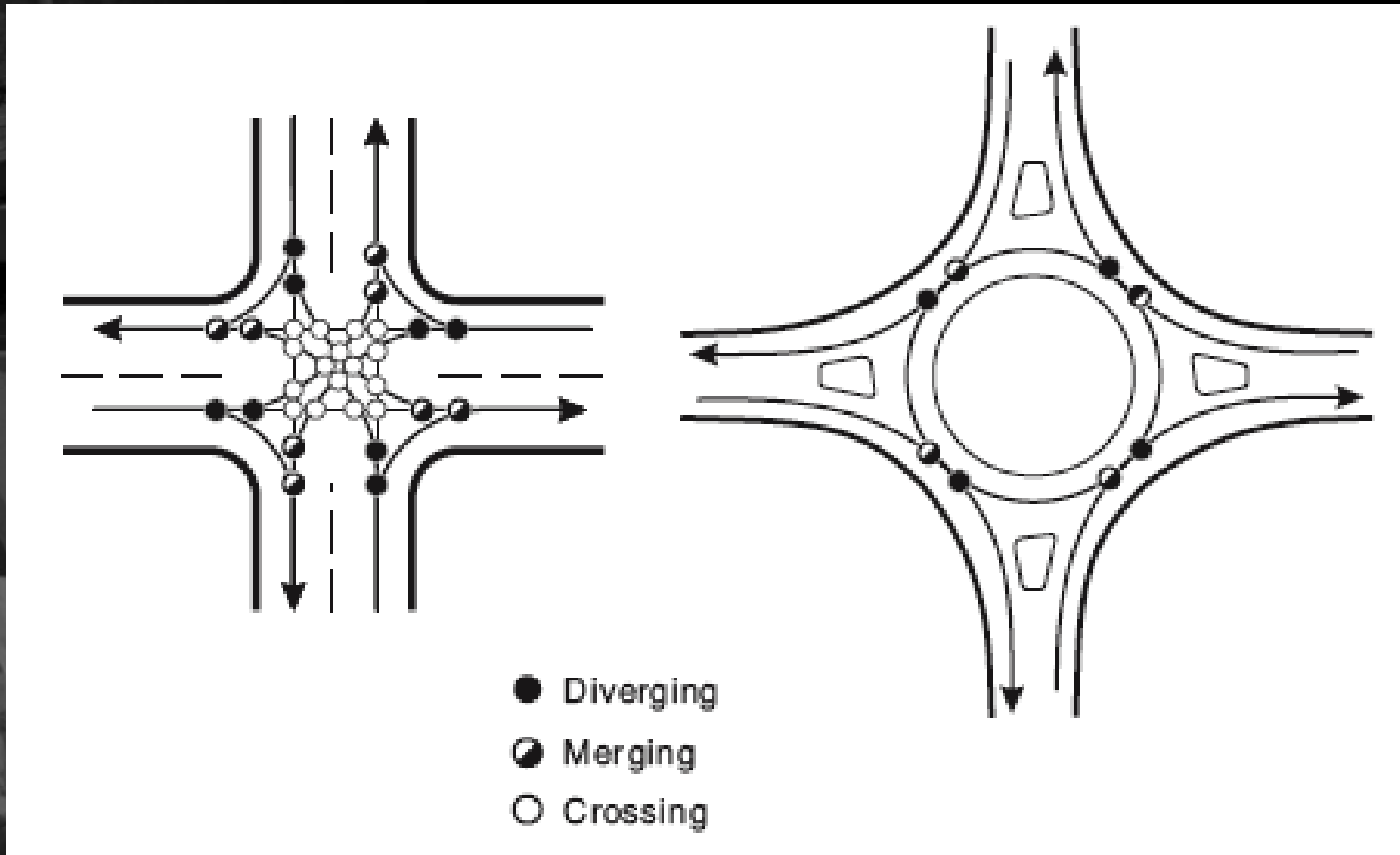
Conflicts

Percentage reduction in the number of crashes by mode at 181 converted Dutch roundabouts

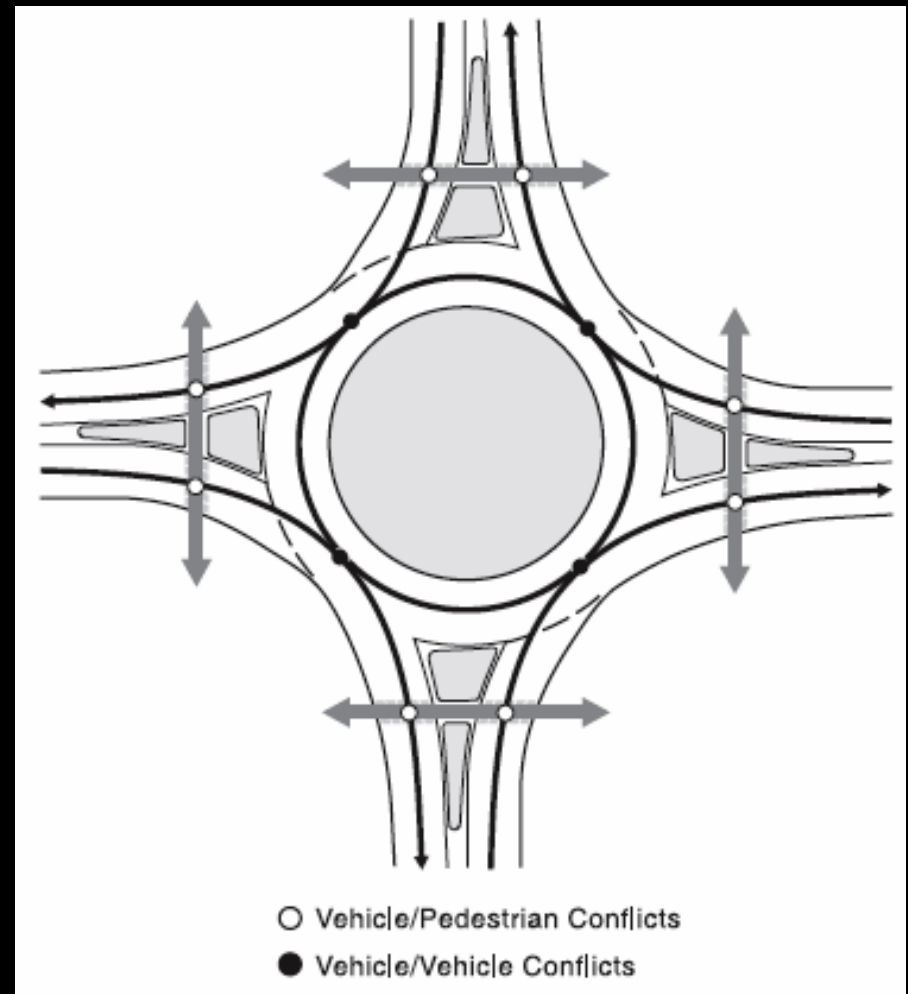
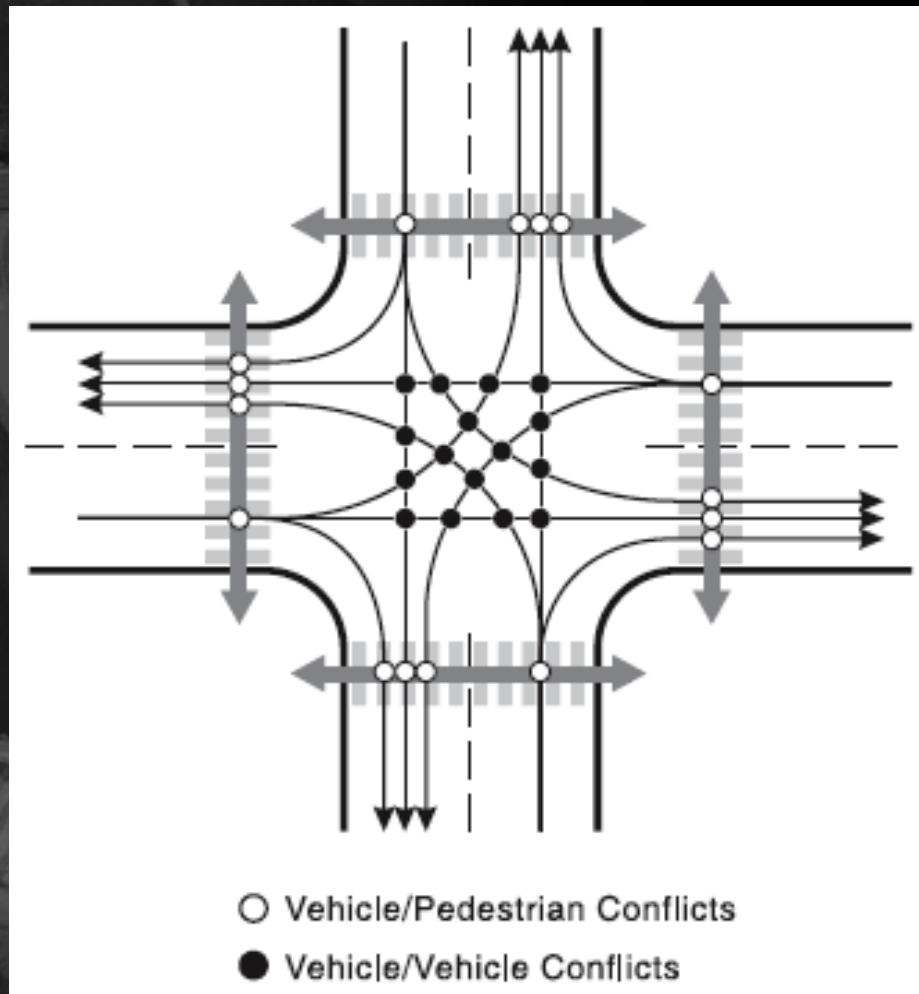
Mode	All Crashes	Injury Crashes
Passenger car	63%	95%
Moped	34%	63%
Bicycle	8%	30%
Pedestrian	73%	89%
Total	51%	72%

Conflicts

A four-leg single-lane roundabout has 75% fewer vehicle conflict points – compared to a Conventional intersection

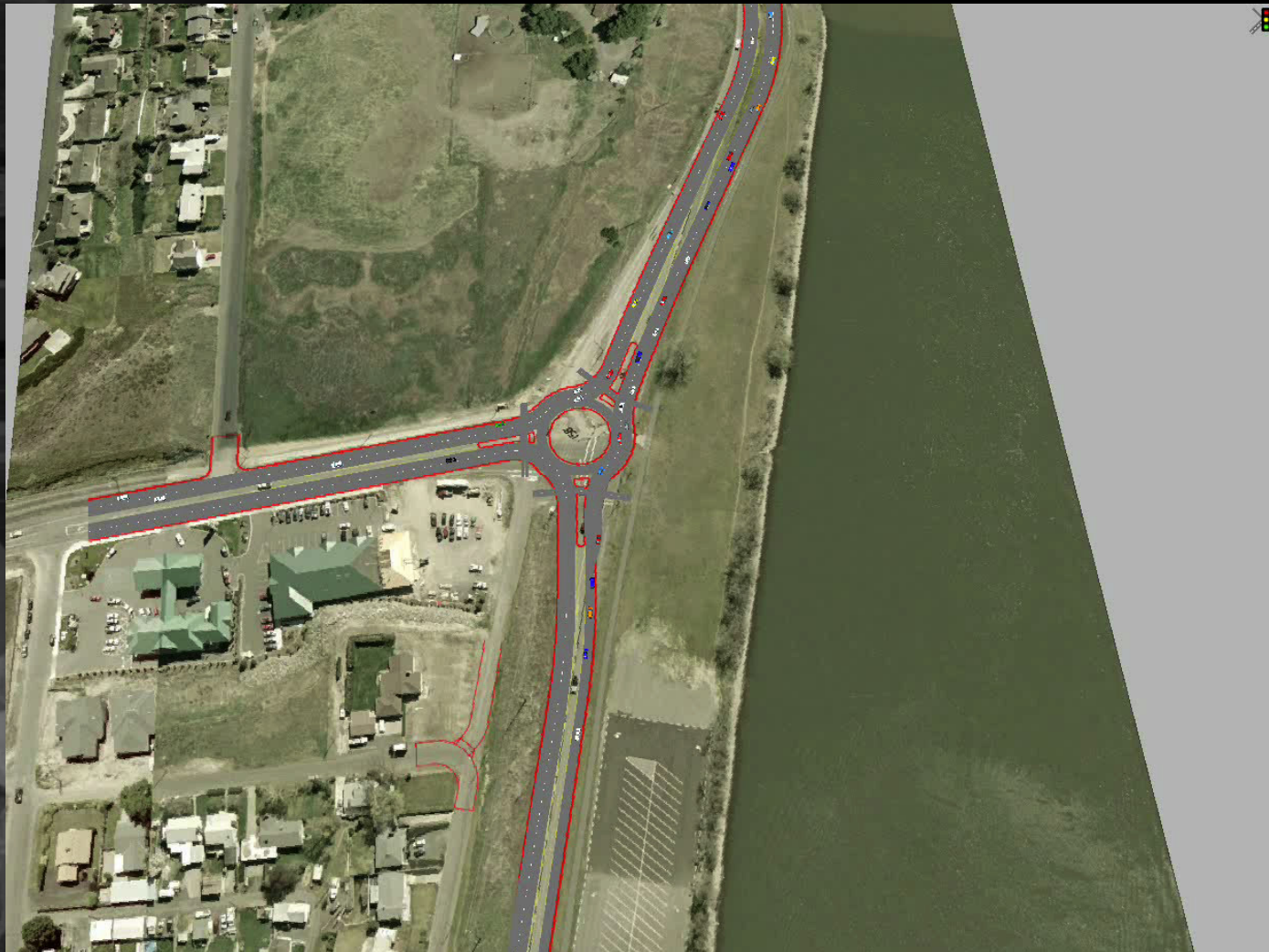


Safety - Vehicle-pedestrian conflicts



Source: FHWA

Traffic Simulation 2025 PM Peak



Traffic Simulation 2025 Off Peak





Source: NYDOT

Source: FHWA

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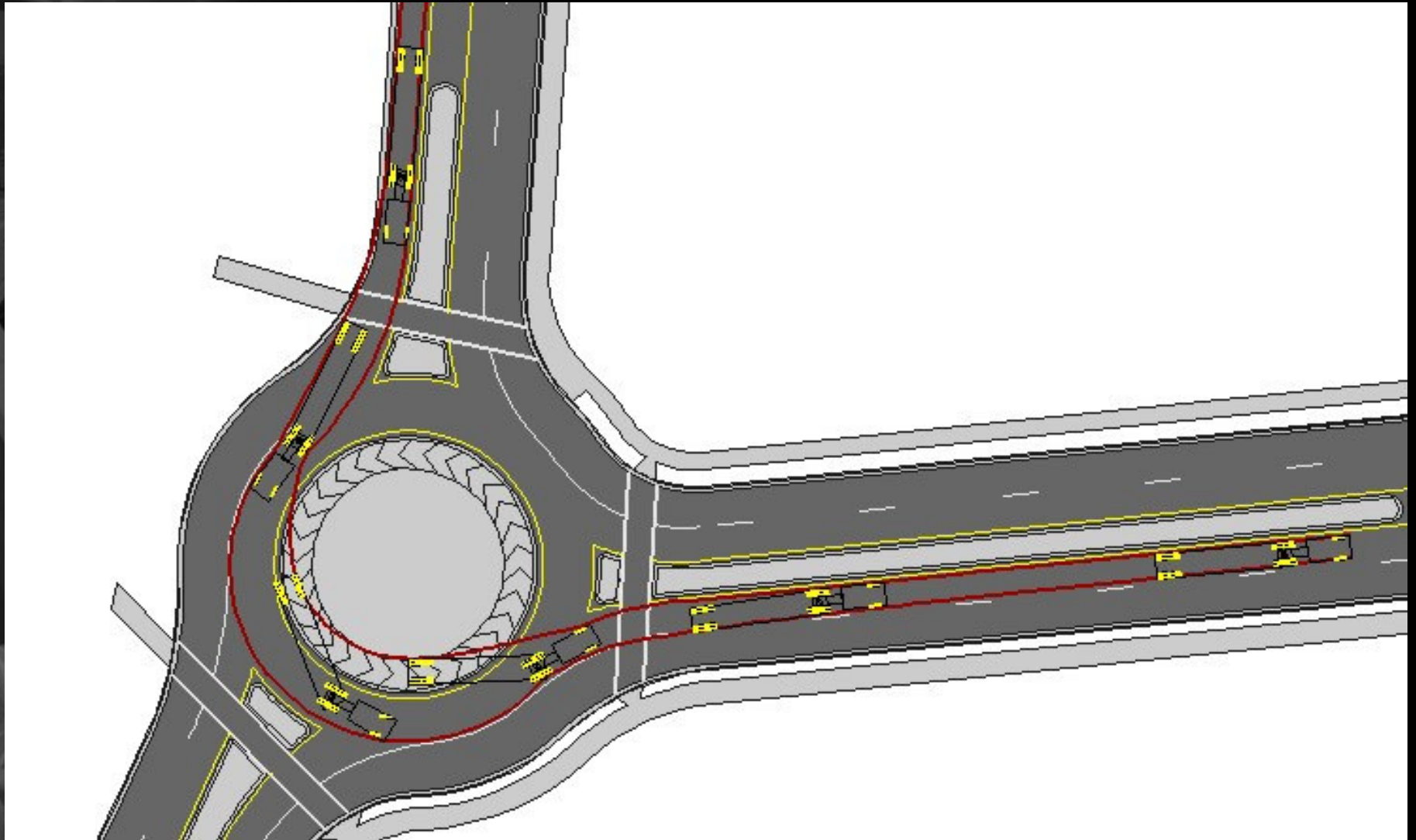


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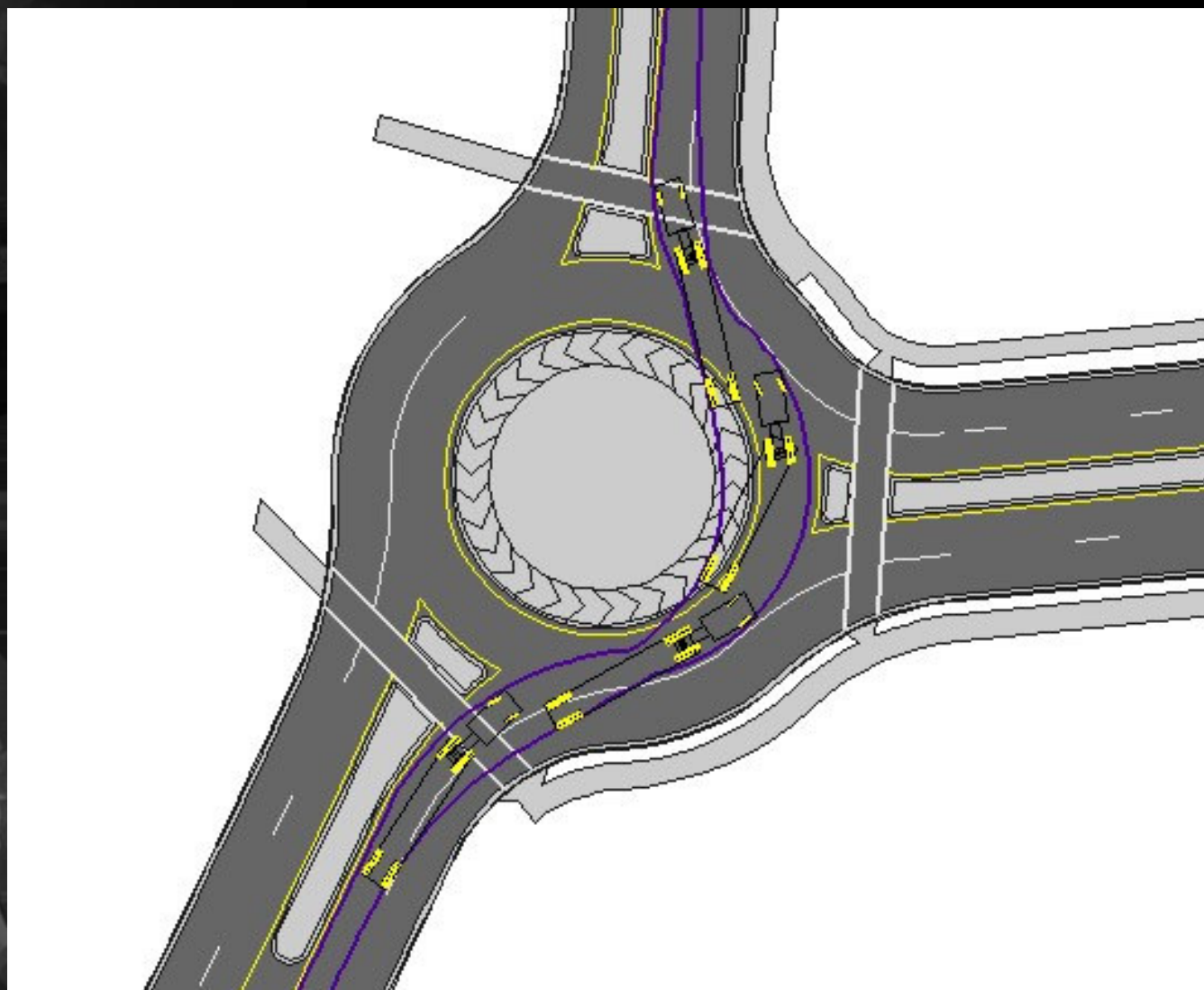


Questions

Truck Turning



Truck Turning



Conflicts

British crash rates for pedestrians at roundabouts and signalized intersections

Intersection Type	Pedestrian Crashes per Million Trips
Mini-roundabout	0.31
Conventional roundabout	0.45
Flared roundabout	0.33
Signals	0.67

Source: (1, 15)



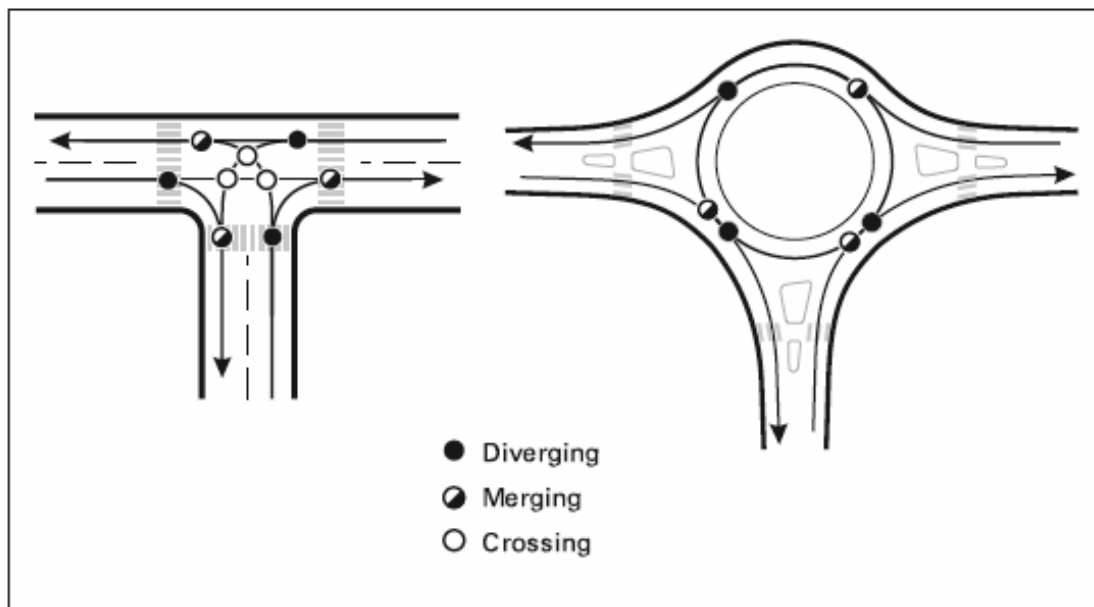


Exhibit 5-1. Vehicle conflict points for "T" Intersections with single-lane approaches.

